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Passalora aseptata, a new cercosporoid fungus from northeastern Uttar Pradesh, India

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Abstract — The anamorphic fungus *Passalora aseptata* sp. nov., found on *Terminalia bellirica* (*Combretaceae*), in the Chowk Forest, Mahrajganj, U.P., India, is described and illustrated.

Key words — biodiversity, foliar diseases, phytopathogenic fungi, taxonomy

Introduction

During an investigation of plant diseases, fungi were collected on living leaves from forests in northeastern Uttar Pradesh during 2008. Among the collections an undescribed cercosporoid species was found. Based on pigmented conidia and conidiophores as well as conidiogenous cells with thickened scars, this fungus can be assigned to *Passalora* as circumscribed by Crous & Braun (2003).

Materials & methods

Specimens with disease symptoms of cercosporoid fungi on living leaves were collected during the course of field trips. Detailed observations of morphological characters were carried out by means of an Olympus CX31 light microscope using oil immersion (1000×). Specimens for microscopic observation were prepared by hand sectioning. Water and lactophenol were used as mounting media. Measurements were made of 30 conidia, hila, and conidiophores and of 15 stromata. Line drawings were prepared at a magnification of 1000×. Morphotaxonomic determinations were made with the help of current literature and available resident expertise. The holotype has been deposited in Herbarium Cryptogamiae Indiae Orientalis (HCIO), Indian Agricultural Research Institute, New Delhi, India; and an isotype was retained in the herbarium of Department of Botany, D.D.U. Gorakhpur University (GPU) for further reference.

Taxonomy

Passalora aseptata R. Singh, Chaurasia, K. Shukla & Upadhyaya, **sp. nov.**

MycoBank MB 519057 Fig. 1

Differs from all other *Passalora* species in aseptate conidia and conidiophores.

Type: India, Uttar Pradesh, Mahrajganj, Chowk Forest, on living leaves of *Terminalia bellirica* (Gaertn.) Roxb. (*Combretaceae*), Jan. 2008, coll. Raghvendra Singh, (**holotype**, HCIO 48785; **isotype**, GPU KSR-395).

Etymology: Latin, *aseptata* refers to aseptate conidia and conidiophores.

Infection spots hypogenous, discrete and initially vein-limited but later coalescing to become irregular and more or less necrotic, light brown, spreading over entire lower leaf surface. Colonies hypophyllous, effuse, velvety, light brown. Mycelium internal. Stromata well developed, erumpent, pseudoparenchymatous, substomatal, 26–43 × 22–31 µm. Conidiophores arising from stromata, in fascicles of 10–12, macronematous, simple, erect to procumbent, straight to flexuous, cylindrical, unbranched, smooth, thin-walled,

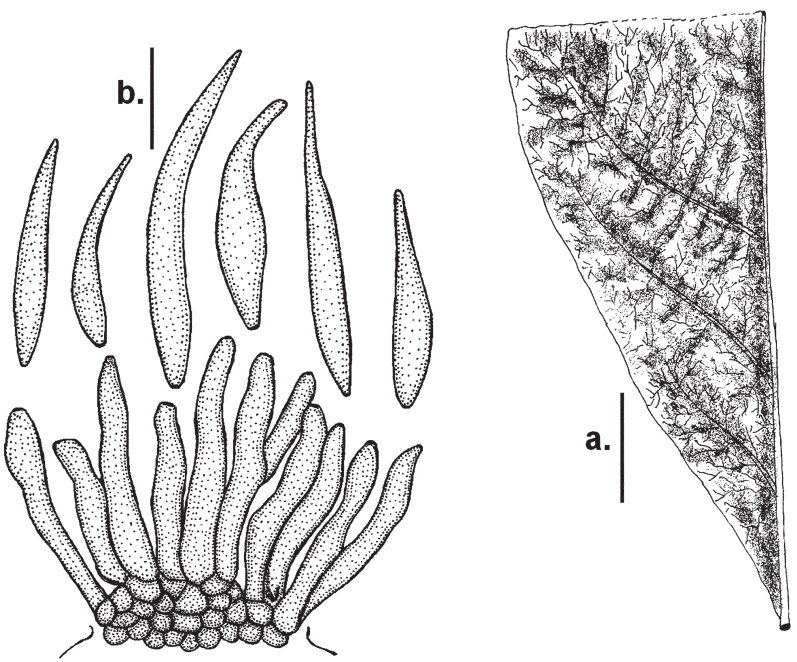

Fig. 1. *Passalora aseptata* (holotype).
a: symptoms; b: stroma, conidia, and conidiophores.
(Scale bars: a = 20 mm, b = 20 µm).

light brown to olivaceous-brown, aseptate, 29–48 × 4–7 µm. Conidiogenous cells integrated, terminal, monoblastic, scars conspicuously thickened, darkened, 0.7–1.5 µm wide. Conidia solitary, dry, acropleurogenous, simple, obclavate-cylindrical, erect, straight to curved, sometimes rostrate, aseptate, thin-walled, smooth, light brown to olivaceous-brown, 40–70 × 4–9 µm, hila slightly thickened, 0.7–1.5 µm wide.

Remarks — No species of *Passalora* Fr. has previously been described with aseptate conidia and conidiophores. A survey of literature also indicates that no species of *Passalora* has previously been described on a host of genus *Terminalia* or family *Combretaceae*.

Prathigada terminaliae (Syd.) B. Sutton (Sutton 1994), *Pseudocercospora brevis* B. Sutton (Sutton 1994), *P. combretacearum* var. *minima* B. Sutton (Sutton 1994), *P. combreti* A.K. Singh & Kamal (Singh & Kamal 1987), and *Scolecostigmina combreti* (J. Kranz) U. Braun (Braun 1999) have been reported on the same host species. *Prathigada terminaliae* is different due to the presence of polyblastic, cicatrized, conidiogenous cells with thin, flat conidiogenous loci and rostrate conidia having smooth or rugulose, multiseptate (septa often rather thick and dark) and unequally pigmented cells. All *Pseudocercospora* species differ from *Passalora aseptata* in having euseptate conidia and conidiogenous cells without thickened scars. *Scolecostigmina combreti* is readily separated by its formation of *s*porodochia, annellations on conidiophores and truncate base of conidia.

Passalora bacilligera (Mont. & Fr.) Mont. & Fr., type species of *Passalora,* and all other species of this genus are easily distinguished from the novel species in having septate conidia.

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Literature cited

Braun U. 1999. Some additional species of *Scolecostigmina*. Schlechtendalia 3: 33–42.

Crous PW, Braun U. 2003. *Mycosphaerella* and its anamorphs: 1. Names published in *Cercospora* and *Passalora*. CBS, Utrecht, The Netherlands, Fungal Biodiversity Centre. 571 p.

Singh AK, Kamal. 1987 ["1986"]. Fungi of Gorakhpur. XXXIX. *Pseudocercospora*. Kavaka 14: 25–29.

Sutton BC. 1994. IMI Descriptions of Fungi and Bacteria, Nos 1181–1190. Mycopathologia 125(1): 43–64. http://dx.doi.org/10.1007/BF01103975